



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

*vesca* is descended from *Castanea atavia*. No. 47. On the marine Phanerogams of the Indian Ocean and Archipelago, by Naumann. (An account of the flowering plants found in salt water during the cruise of the *Gazelle*.) Nos. 48, 49. Contributions to the history of the development of the Sporogonium in liverworts, by Kienitz-Gerloff. In reports of societies: *Berlin*: Ascheron on the distribution of the sexes of *Stratiotes*, a plant allied to *Sagittaria*. (The pistillate and staminate plants are for the most part widely separated.) Nos. 50, 51. On the development of cambium, by Dr. Velten. (Examining N. J. C. Müller's views.) In reports of societies: *Brandenburg*: Braun on the morphological nature of the tendrils in the gourd family (regarding them as leaves, and in divided tendrils each division as one leaf). *Berlin*: Brefeld on conjugating fungi.

*Sitzungsberichte der kaiserlichen Akademie der Wissenschaften*, lxx. i. Contributions to the morphology and biology of yeast, by Emil Schumacher, of Lucerne (detailing experiments to determine the influence of low temperature, etc., upon the life of the yeast plant). Lxx. ii. Investigations respecting the occurrence of lignin in the tissues of plants, by A. Burgerstein. (Experiments with aniline sulphate, by which he determined the absence of lignin in fungæ and algæ. It is found in a very few plant-hairs, in all wood-cells, but never in cambium. Many bast-cells have considerable lignin, but the sieve-cells hardly any. The most curious observation was that the walls of pith-cells in many plants are lignified, and the medullary rays also.)

## ZOOLOGY.

BREEDING RANGE OF THE SNOW-BIRD. — During a flying visit paid to the mountains of Southwestern Virginia, the latter part of June, I found *Junco hyemalis* very common on the summits, at an altitude of forty-five hundred feet. A nest containing three eggs, about to hatch, was discovered within a stone's throw of the house. It was built on the ground, in a hole in a slight embankment. The mother-bird fluttered in sight within a few feet of me, of course rendering the identification absolute; besides, the birds were plentiful in the vicinity, and well known to the most obtuse of the aborigines of this primeval region. The southern extension of the species during the breeding season has only lately become known. Professor Cope mentions it in a former paper in the *NATURALIST*, and I have no doubt that he is right in crediting the species with a breeding range to the mountains of Georgia. This circumstance of its distribution explains the sudden appearances and disappearances of the species, according to the weather, during the colder portions of the year, at low levels. It can readily change its summer for its winter abode, and conversely, by a few hours' flight.

While on this subject, let me allude to the slip of the pen, or momentary aberration of mind, I don't know which, that led me to give the

"Graylock range" as an instance of the southward dispersion of this bird in the breeding season, at page 141 of the Birds of the Northwest. The proper allusion is to some mountains in North Carolina. — E. C.

HOMOLOGIES OF MAMMALIAN TEETH. — Professor Cope has recently investigated the homologies of the different types of mammalian teeth. He refers all of them to four types, the haplodont, ptychodont, bunodont, and lophodont. The first is a simple cone or truncate cylinder in form, and from it all the others are derived by folding vertically (ptychodont) or transversely. The lophodont teeth are the most complex, and consist of various modifications of the bunodont type. The bunodont tooth has the summit of the crown composed of obtuse tubercles, which may be high or low or flattened in different ways. The odd-toed hoofed mammals have the outer tubercles flattened so as to have a crescentic or V-shaped section, and the inner tubercles are either simply conic or connected with the outer by cross-crests of various character. The rhinoceros, tapir, Symborodon, etc., possess such teeth. The ruminating animals, on the other hand, have both the inner and outer crests much flattened, so as to be crescent-shaped in section, and they are also much elevated, so as to leave deep valleys between them, which are often filled up with cement.

The flesh teeth of the lower jaw of carnivora were shown to be derived from a simple tubercular (bunodont) tooth with four cusps, by a process of change which is to be chiefly observed among Eocene carnivora. Professor Cope finds that some of these add a small fifth tubercle, and that this is connected with the outer front one of the four by a low ledge. Successively the two hinder tubercles disappear, and the front or fifth grows larger. The ridge connecting the latter with the outer grows longer and higher, and the inner front then disappears. Finally the hinder part of the tooth disappears also, leaving but two apices connected by a cutting edge, which is characteristic of the flesh-tooth of the lion and tiger.

The human molar tooth is one of the simpler forms of the bunodont division.

PROTECTIVE RESEMBLANCE IN THE YELLOW-BIRD. — On passing an embankment of the Grand Trunk Railway at Fort Gratiot, Michigan, one warm day in August, 1872, we noticed that numbers of the yellow-bird (*Chrysomitris tristis* Bon.) had collected where an extensive growth of the common mullein (*Verbascum thapsus* L.) lined the slope. Each bird had perched on the apex of a spike of the blossoms, the color of which was almost the identical shade of yellow in the plumage of the bird. The mulleins were ranged in stiff files, like soldiers in yellow uniforms, and each bird, as we passed, remained motionless, looking like a continuation of the spike, of which one might be easily deceived into thinking it part and parcel. As soon as we had passed by, the birds were again busy, flitting from plant to plant, feeding on the seeds, and enjoying themselves.

We could not avoid thinking that there was a meaning in the action here described, significant of an established protective habit, especially considering the decided changes of plumage assumed by this species at different seasons of the year. — HENRY GILLMAN.

SHELLS OF KERGUELEN ISLAND. — The naturalists connected with the Transit of Venus Expedition have begun to make their reports.

In the report of Dr. J. H. Kidder, of the Kerguelen station, now in press, Mr. W. H. Dall contributes a list of the mollusca collected, describing three new genera. One of these was described in a late number of the *Annals and Mag. Nat. Hist.* by Mr. E. A. Smith, of the British Museum, under the name *Eatonia*, long since preoccupied by Hall for a genus of brachiopoda. For this Mr. Dall substitutes *Eatoniella*. Mr. Dall also describes a genus allied to *Ceropsis* of the *Carditidæ*, but smooth and without lateral teeth, and with a semi-internal ligament, giving it the name *Kidderia*, in honor of the naturalist of the expedition. Dr. P. P. Carpenter also describes a new genus of chitons, with the anterior and posterior valves marginate, but not slit, and the other valves without a margin. This genus, intermediate between *Hanleia* and the articulate chitons, he calls *Hemiarthrum*.

#### ANTHROPOLOGY.

JASPER WAR-CLUB TEETH. — In the sixth volume of the *NATURALIST*, page 157, fig. 24, I described a large flint implement as a hatchet. Such specimens I have since been led to consider as teeth, if I may so call them, of war-clubs; the handles of which were frequently the femora of the elk and bison. This form may be briefly described as obtusely pointed, short, and broad jasper implements; evenly chipped to a well-defined edge. Average-sized specimens measure about three to four inches in length, by two and a half to three in breadth. While the chipping is not as fine as in arrow and spear points, it is certain that the majority, at least, are finished implements, as suggested by the author of *Flint Chips* (p. 439), and not merely "blocked out" masses of jasper, to be subsequently worked into spear-heads and similar forms (see Rau on Agricultural Implements, Smithsonian Annual Report, 1868, p. 401). Besides these finished specimens, I have found that the larger flint implements, which I have considered to be either "lance-heads" (*Proc. Acad. Nat. Sci. of Philadelphia*, 1860, p. 278) or agricultural implements when blunt and broad, and weapons when narrower and pointed, in vol. vi. of this journal, page 155, fig. 22, — that these, when broken in half, were subsequently utilized as I have suggested, just as broken arrow-heads were occasionally made available, by conversion into scrapers (see this journal, vii. 500), except that in the latter instance the base of the broken implement was used, and in the former, the pointed or upper half. My reason for considering them as the teeth of war-clubs is that the point, although blunt, is well defined, and the